

WHAT IS CLAIMED IS:

1. A method for performing nutrient trading, comprising:
posting a trade offer for an amount of available nutrient credits;
receiving a bid for the trade offer;
receiving an acceptance of the bid for the trade offer to form a trade; and
registering the trade as a nutrient trade.
2. The method according to claim 1, wherein the trade offer is an offer to sell
an amount of available nutrient credits.
3. The method according to claim 1, wherein the trade offer is an offer to buy
an amount of available nutrient credits.
4. The method according to claim 1, wherein registering comprises:
posting the nutrient trade in a trade registry; and
transferring the nutrient trade to a regulatory agency.
5. The method according to claim 1, further comprising the steps performed
before the posting step, of:
receiving a selection of a nonpoint source location;
receiving source information describing the nonpoint source; and

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determining a first nutrient load based on the location and the source information.

6. The method of claim 5, further comprising:

receiving a selection of a management practice;

receiving information describing the selected management practice;

determining a cost associated with the selected management practice; and

determining an amount of available nutrient credits based on the selected management practice.

7. The method according to claim 1, further comprising the steps performed

before the posting step, of:

receiving a selection of a point source location;

receiving nutrient information describing the point source; and

determining nutrient emissions of the point source based on the nutrient information.

8. The method of claim 7, further comprising:

receiving economic information for the point source;

determining an amount of available nutrient credits based on a nutrient reduction practice; and

determining a cost associated with the nutrient reduction practice.

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9. A method for performing nutrient trading for a nonpoint source associated with a management practice, comprising:

selecting a nonpoint source location;

providing source information describing the nonpoint source;

selecting a new management practice associated with a first nutrient load based on the location and source information;

providing new management practice information associated with the new management practice; and

receiving nutrient information reflecting a cost of the new management practice and an amount of available nutrient credits associated with the new management practice.

10. The method according to claim 9, wherein the location is selected using a geographical information system interface.

11. The method according to claim 9, wherein the source information comprises information reflecting characteristics associated with the nonpoint source and the management practices.

12. The method according to claim 9, wherein the nutrient load is determined using an environmental model.

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13. The method according to claim 12, wherein the environmental model is one of a Spatially Explicit Delivery Model and Revised Universal Soil Loss Equation Model.

14. The method according to claim 9, wherein the new management practice is one of conservation tillage, filter strip construction, wetland construction, and sediment basin construction.

15. The method according to claim 9, wherein the new management practice information comprises at least one of construction information and economic information.

16. The method according to claim 9, wherein the amount of available nutrient credits is based on a difference between a second nutrient load associated with the point source and the first nutrient load.

17. A method for determining an amount of available nutrient credits for a point source, comprising:

selecting a point source location;

providing nutrient information describing the point source;

providing economic information for the point source; and

receiving information reflecting an amount of available nutrient credits associated with a nutrient reduction practice and a cost for implementing the new

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management practice, wherein the nutrient reduction practice is associated with nutrient emissions based on the nutrient information and location.

18. The method according to claim 17, wherein the location is selected using a geographical information system interface.

19. The method according to claim 17, wherein the nutrient information comprises at least one of current treatment practices, current phosphorus emissions, phosphorus limit maintenance costs, regulatory information, and upgrade costs.

20. A system for performing nutrient trading, comprising:
means for posting a trade offer for an amount of available nutrient credits;
means for receiving a bid for the trade offer;
means for receiving an acceptance of the bid for the trade offer; and
means for registering the bid as a nutrient trade.

21. The system according to claim 20, wherein the trade offer is an offer to sell an amount of available nutrient credits.

22. The system according to claim 20, wherein the trade offer is an offer to buy an amount of available nutrient credits.

23. The system according to claim 20, wherein the registering means comprises:

means for posting the nutrient trade in a trade registry; and
means for transferring the nutrient trade to a regulatory agency.

24. The system according to claim 20, further comprising:

means for receiving a selection of a nonpoint source location;
means for receiving source information describing the nonpoint source; and
means for determining a first nutrient load based on the location and the source information.

25. The system of claim 24, further comprising:

means for receiving a selection of a management practice;
means for receiving information describing the selected management practice;
means for determining a cost associated with the selected management practice; and
means for determining an amount of available nutrient credits based on the selected management practice.

26. The system according to claim 20, further comprising:

means for receiving a selection of a point source location;
means for receiving nutrient information describing the point source; and

means for determining nutrient emissions of the point source based on the nutrient information.

27. The system of claim 26, further comprising:

means for receiving economic information for the point source;

means for determining an amount of available nutrient credits based on a nutrient reduction practice; and

means for determining a cost associated with the nutrient reduction practice.

28. A system for performing nutrient trading for a nonpoint source associated with a management practice, comprising:

means for selecting a nonpoint source location;

means for providing source information describing the nonpoint source;

means for selecting a new management practice associated with a first nutrient load based on the location and source information;

means for providing new management practice information associated with the new management practice; and

means for receiving nutrient information reflecting a cost of the new management practice and an amount of available nutrient credits associated with the new management practice.

29. The system according to claim 28, wherein nonpoint source location selecting means is a geographical information system interface.

30. The system according to claim 28, wherein the source information comprises information reflecting characteristics associated with the nonpoint source and current management practices.

31. The system according to claim 28, wherein the nutrient load determining means is an environmental model.

32. The system according to claim 31, wherein the environmental model is one of a Spatially Explicit Delivery Model and Revised Universal Soil Loss Equation Model.

33. The system according to claim 28, wherein the new management practice is one of conservation tillage, filter strip construction, wetland construction, and sediment basin construction.

34. The system according to claim 28, wherein the new management practice information comprises at least one of construction information and economic information.

35. The system according to claim 28, wherein the amount of available nutrient credits is based on a difference between a second nutrient load associated with the point source and the first nutrient load.

36. A system for determining an amount of available nutrient credits for a point source, comprising:

- means for selecting a point source location;
- means for providing nutrient information describing the point source;
- means for providing economic information for the point source; and
- means for receiving information reflecting an amount of available nutrient credits associated with a nutrient reduction practice and a cost for implementing the new management practice, wherein the nutrient reduction practice is associated with nutrient emissions based on the nutrient information and location.

37. The system according to claim 36, wherein the point source location selecting means is a geographical information system interface.

38. The system according to claim 36, wherein the nutrient information comprises at least one of current treatment practices, current phosphorus emissions, phosphorus limit maintenance costs, regulatory information, and upgrade costs.

39. A computer readable medium including instructions for performing a method, when executed by a processor, for performing nutrient trading, the method performed by a server comprising:

- posting a trade offer for an amount of available nutrient credits;
- receiving a bid for the trade offer;

receiving an acceptance of the bid for the trade offer; and
registering the bid as a nutrient trade.

40. The computer readable medium according to claim 39, wherein the trade offer is an offer to sell an amount of available nutrient credits.

41. The computer readable medium according to claim 39, wherein the trade offer is an offer to buy an amount of available nutrient credits.

42. The computer readable medium according to claim 39, wherein registering comprises:

posting the nutrient trade in a trade registry; and
transferring the nutrient trade to a regulatory agency.

43. The computer readable medium according to claim 39, further comprising the steps performed before the posting step, of:

receiving a selection of a nonpoint source location;
receiving source information describing the nonpoint source; and
determining a first nutrient load based on the location and the source information.

44. The computer readable medium of claim 43, further comprising:
receiving a selection of a management practice;

Figure 1 shows the results of the first two experiments. In both cases, the mean number of correct responses was significantly higher than the number of incorrect responses, indicating that the subjects were able to discriminate between the two conditions. The results of the third experiment are shown in Figure 2. The mean number of correct responses was significantly higher than the number of incorrect responses, indicating that the subjects were able to discriminate between the two conditions.

- receiving a selection of a point source location;
- receiving nutrient information describing the point source; and
- determining nutrient emissions of the point source based on the nutrient information.

47. A computer readable medium including instructions for performing a method, when executed by a processor, for performing nutrient trading for a point source associated with a management practice, comprising:

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selecting a new management practice associated with a first nutrient load based on the location and source information;

providing new management practice information associated with the new management practice; and

receiving nutrient information reflecting a cost of the new management practice and an amount of available nutrient credits associated with the new management practice.

48. The computer readable medium according to claim 47, wherein the location is selected using a geographical information system interface.

49. The computer readable medium according to claim 47, wherein the source information comprises information reflecting characteristics associated with the nonpoint source and the management practice.

50. The computer readable medium according to claim 47, wherein the nutrient load is determined using an environmental model.

51. The computer readable medium according to claim 50, wherein the environmental model is one of a Spatially Explicit Delivery Model and Revised Universal Soil Loss Equation Model.

52. The computer readable medium according to claim 47, wherein the new management practice is one of conservation tillage, filter strip construction, wetland construction, and sediment basin construction.

53. The computer readable medium according to claim 47, wherein the new management practice information comprises at least one of construction information and economic information.

54. The computer readable medium according to claim 47, wherein the amount of available nutrient credits is based on a difference between a second nutrient load associated with the point source and the first nutrient load.

55. A computer readable medium including instructions for performing a method, when executed by a processor, for determining an amount of available nutrient credits for a point source, comprising:

selecting a point source location;

providing nutrient information describing the point source;

providing economic information for the point source; and

receiving information reflecting an amount of available nutrient credits associated with a nutrient reduction practice and a cost for implementing the new management practice, wherein the nutrient reduction practice is associated with nutrient emissions based on the nutrient information and location.

56. The computer readable medium according to claim 55, wherein the location is selected using a geographical information system interface.

57. The computer readable medium according to claim 55, wherein the nutrient information comprises at least one of current treatment practices, current phosphorus emissions, phosphorus limit maintenance costs, regulatory information, and upgrade costs.

58. A method for performing nutrient trading for a nonpoint source associated with a management practice, comprising:

receiving a selection of a nonpoint source location;
receiving source information describing the nonpoint source;
determining a first nutrient load based on the location and the source information;
receiving a selection of a management practice;
receiving information describing the selected management practice;
determining a cost associated with the selected management practice; and
determining an amount of available nutrient credits based on the selected management practice.

59. The method according to claim 58, wherein the source information comprises information reflecting characteristics associated with the nonpoint source and the management practice.

60. The method according to claim 58, wherein the nutrient load is determined using an environmental model.

61. The method according to claim 60, wherein the environmental model is one of a Spatially Explicit Delivery Model and Revised Universal Soil Loss Equation Model.

62. The method according to claim 58, wherein the new management practice is one of conservation tillage, filter strip construction, wetland construction, and sediment basin construction.

63. The method according to claim 58, wherein the new management practice information comprises at least one of construction information and economic information.

64. The method according to claim 58, wherein the amount of available nutrient credits is based on a difference between a second nutrient load associated with the nonpoint source and the first nutrient load.

65. A method for determining an amount of available nutrient credits for a point source, comprising:

receiving a selection of a point source location;

receiving nutrient information describing the point source;
determining nutrient emissions of the point source based on the nutrient information;
receiving economic information associated with the point source;
determining an amount of available nutrient credits based on a nutrient reduction practice; and
determining a cost associated with the nutrient reduction practice.

66. The method according to claim 65, wherein the nutrient information comprises at least one of current treatment practices, current phosphorus emissions, phosphorus limit maintenance costs, regulatory information, and upgrade costs.

67. A system for performing nutrient trading for a nonpoint source associated with a management practice, comprising:
means for receiving a selection of a nonpoint source location;
means for receiving source information describing the nonpoint source;
means for determining a first nutrient load based on the location and the source information;
means for receiving a selection of a management practice;
means for receiving information describing the selected management practice;
means for determining a cost associated with the selected management practice; and

means for determining an amount of available nutrient credits based on the selected management practice.

68. The system according to claim 67, wherein the source information comprises information reflecting characteristics associated with the nonpoint source and the management practice.

69. The system according to claim 67, wherein the nutrient load determining means is an environmental model.

70. The system according to claim 69, wherein the environmental model is one of a Spatially Explicit Delivery Model and Revised Universal Soil Loss Equation Model.

71. The system according to claim 67, wherein the new management practice is one of conservation tillage, filter strip construction, wetland construction, and sediment basin construction.

72. The system according to claim 67, wherein the new management practice information comprises at least one of construction information and economic information.

73. The system according to claim 67, wherein the amount of available nutrient credits is based on a difference between a second nutrient load associated with the point source and the first nutrient load.

74. A system for determining an amount of available nutrient credits for a point source, comprising:

- means for receiving a selection of a point source location;
- means for receiving nutrient information describing the point source;
- means for determining nutrient emissions of the point source based on the nutrient information;
- means for receiving economic information associated with the point source;
- means for determining an amount of available nutrient credits based on a nutrient reduction practice; and
- means for determining a cost associated with the nutrient reduction practice.

75. The system according to claim 74, wherein the nutrient information comprises at least one of current treatment practices, current phosphorus emissions, phosphorus limit maintenance costs, regulatory information, and upgrade costs.

76. A computer readable medium including instructions for performing a method, when executed by a processor, for performing nutrient trading for a nonpoint source associated with a management practice, the method comprising:

- receiving a selection of a nonpoint source location;

receiving source information describing the nonpoint source;
determining a first nutrient load based on the location and the source information;
receiving a selection of a management practice;
receiving information describing the selected management practice;
determining a cost associated with the selected management practice; and
determining an amount of available nutrient credits based on the selected management practice.

77. The computer readable medium according to claim 76, wherein the source information comprises information reflecting characteristics associated with the nonpoint source and the management practice.

78 The computer readable medium according to claim 76, wherein the nutrient load is determined using an environmental model.

79. The computer readable medium according to claim 78, wherein the environmental model is one of a Spatially Explicit Delivery Model and Revised Universal Soil Loss Equation Model.

80. The computer readable medium according to claim 76, wherein the new management practice is one of conservation tillage, filter strip construction, wetland construction, and sediment basin construction.

81. The computer readable medium according to claim 76, wherein the new management practice information comprises at least one of construction information and economic information.

82. The computer readable medium according to claim 76, wherein the amount of available nutrient credits is based on a difference between a second nutrient load associated with the point source and the first nutrient load.

83. A computer readable medium including instructions for performing a method, when executed by a processor, for determining an amount of available nutrient credits for a point source, the method comprising:

receiving a selection of a point source location;

receiving nutrient information describing the point source;

determining nutrient emissions of the point source based on the nutrient information;

receiving economic information associated with the point source;

determining an amount of available nutrient credits based on a nutrient reduction practice; and

determining a cost associated with the nutrient reduction practice.

84. The computer readable medium according to claim 83, wherein the nutrient information comprises at least one of current treatment practices, current

phosphorus emissions, phosphorus limit maintenance costs, regulatory information, and upgrade costs.

85. A method for providing nutrient trade information comprising:
receiving a selection of a geographic location;
determining at least one nutrient trade associated with the selected geographic location; and
providing a nutrient registry including information reflecting the at least one registered nutrient trade.

86. The method according to claim 85, wherein the trade registry includes information reflecting all registered nutrient trades associated with the selected geographic location.

87. A system for providing nutrient trade information comprising:
means for receiving a selection of a geographic location;
means for determining at least one nutrient trade associated with the selected geographic location; and
means for providing a nutrient registry including information reflecting the at least one registered nutrient trade.

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88. The system according to claim 87, wherein the trade registry includes information reflecting all registered nutrient trades associated with the selected geographic location.

89. A computer readable medium including instructions for performing a method, when executed by a processor, for providing nutrient trade information comprising:

receiving a selection of a geographic location;

determining at least one nutrient trade associated with the selected geographic location; and

providing a nutrient registry including information reflecting the at least one registered nutrient trade.

90. The computer readable medium according to claim 89, wherein the trade registry includes information reflecting all registered nutrient trades associated with the selected geographic location.

91. A method for providing nutrient trade information comprising:

providing a selection of a geographic location; and

receiving a nutrient registry including information reflecting all registered nutrient trades associated with the selected geographic location.

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